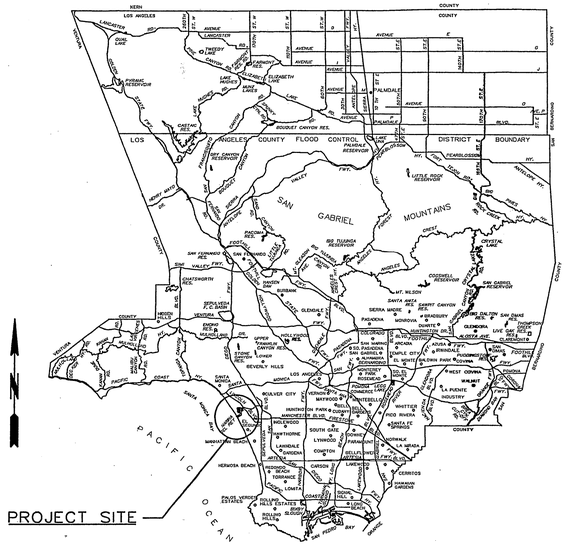
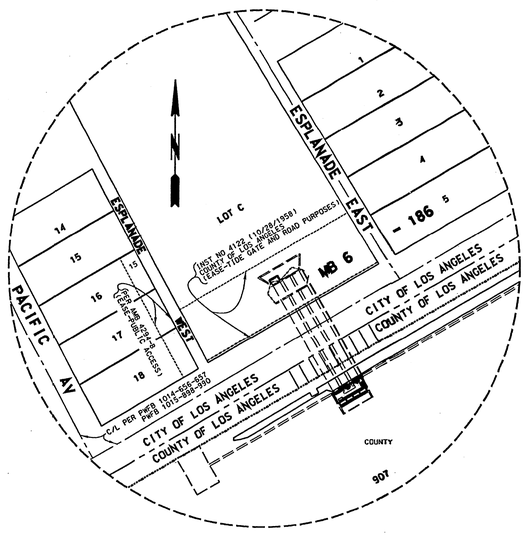
COUNTY OF LOS ANGELES
DEPARTMENT OF
BEACHES AND HARBORS

MARINA DEL REY
TIDE GATES REHABILITATION

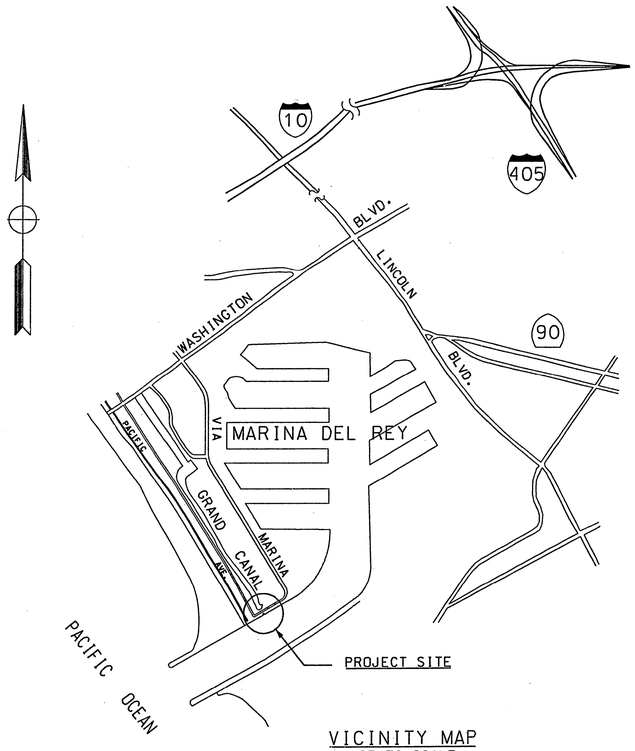


Thomas Bros. Pg. 702, A2

LOCATION MAP



RIGHT OF WAY MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

INDEX TO PROJECT PLANS

SH. NO.	DWG. NO.	DESCRIPTION
1		TITLE SHEET
2	M-01	GENERAL PLAN AND EQUIPMENT LIST
3	M-02	EQUIPMENT REMOVAL AND INSTALLATION
4	M-03	SLIDE GATE AND APPURTENANCE INSTALLATION
5	M-04	CATWALK AND LADDER DETAILS
6	S-01	STRUCTURAL PLAN AND OVERHANG DETAILS
7	S-02	OUTLET WINGWALL AND SLIDE GATE DETAILS
8	S-03	CONCRETE WALL AND TRASH RACK
9	S-04	TRASH RACK DETAILS
10	S-05	CHAIN LINK FENCE DETAILS
11	S-06	STAGE CONSTRUCTION PLAN
12	S-07	TEMPORALLY FLAP GATE SUPPORT
13	E-01	GENERAL ELECTRICAL DIAGRAM
14	E-02	GATE MOTOR CONTROL DIAGRAM
15	E-03	MISCELLANEOUS ELECTRICAL DIAGRAM

REFERENCES

SURVEY FIELD NOTES: Elevations shown are in feet based on L.A. City '85 NGVD '29 ZONE 5

EXISTING DWG: Marina Del Rey - Tide Gates Small Boat Harbor, Sheet No. 1-3, Date: 8-20-1958

BUREAU OF ENGINEERING CITY OF LOS ANGELES FOUNDED 1781 OFFICIAL RECORD

D-34542

DRAFTER O. PONGPUN | DESIGNED O. PONGPUN | CHECKED P. CHANG | CADD PROJECT FILE NAME

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

APPROVED Robert Vega
BY ROBERT VEGA CITY OF LOS ANGELES DATE Aug 28 2007

APPROVED Gregory Woodall
BY GREGORY WOODALL DEPARTMENT OF BEACHES AND HARBORS DATE 12-4-07

TWO DAYS BEFORE YOU DIG
CALL USA TOLL FREE
1-800-227-2600

DATE	MK	DESCRIPTION
		REVISIONS

REGISTERED PROFESSIONAL ENGINEER PETER CHANG NO. 50763 EXP. 9/30/2007 CIVIL STATE OF CALIFORNIA

Peter Chang 9/1/07
PROJECT ENGINEER DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

TITLE SHEET
MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 1 OF 15

TS-DF 12/01

DATE:$DATE$ TIME:$TIME$ FILE:$FILE$

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

TITLE SHEET

MARINA DEL REY
TIDE GATES REHABILITATION

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

TITLE SHEET

MARINA DEL REY
TIDE GATES REHABILITATION

Electronic Plan Processing System (EPPS)

Los Angeles City - Department of Public Works - Bureau of Engineering

INDEX SEARCH

* Index Number ** D - 34542 Tip

Page/Sub Page Number /

* Sheet Type ☑ As-Bid ☑ As-Built ☑ As-Revised ☐ As-Corrected

Display 10 records per page

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* Required

** Click here to see how index numbers are formatted.

Project Title for Index Number D-34542

1. MARINA DEL REY TIDE GATES REHABILITATION

Record 1 to 10 of 15 Records Page 1 of 2 Pages

1 2 Next

Index Number	Sheet Type	Page Number	Sub Page Number	Frame Page Number	Description	Created On
D-34542	AS-BID	1				03/02/2015 02:44:47 PM
D-34542	AS-BID	2				03/02/2015 02:44:47 PM
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D-34542	AS-BID	5				03/02/2015 02:44:47 PM
D-34542	AS-BID	6				03/02/2015 02:44:47 PM
D-34542	AS-BID	7				03/02/2015 02:44:47 PM
D-34542	AS-BID	8				03/02/2015 02:44:47 PM
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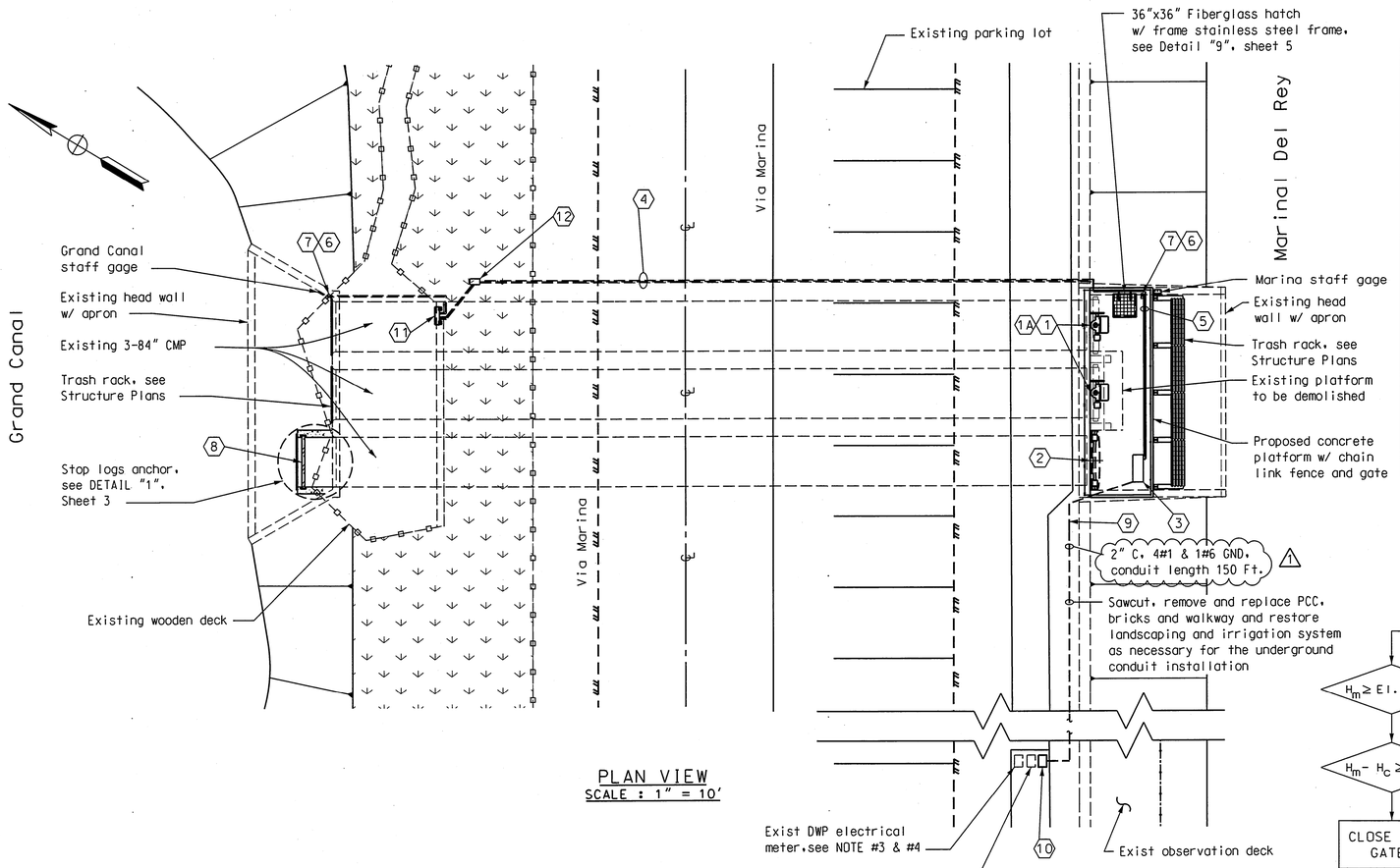
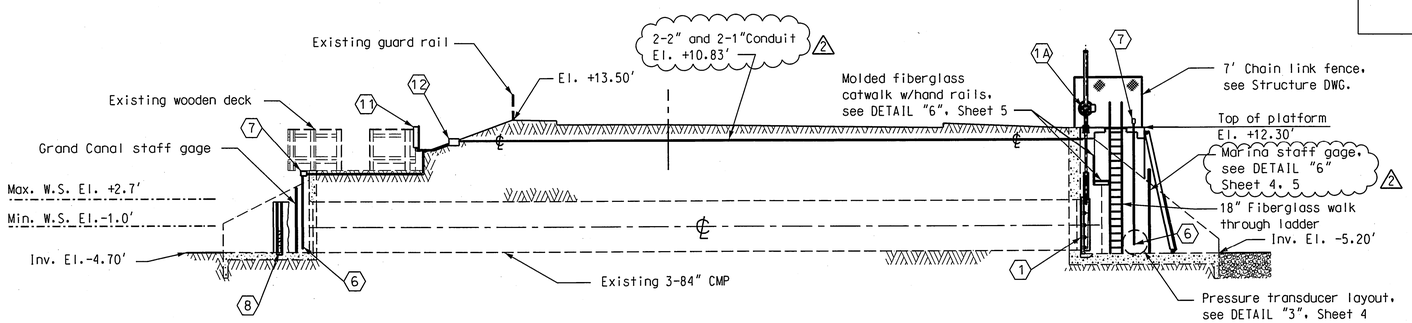

Grand Canal
Via Marina
Via Marina
Marinal Del Rey
Existing parking lot
36"x36" Fiberglass hatch w/ frame stainless steel frame, see Detail "9", sheet 5
Grand Canal staff gage
Existing head wall w/ apron
Existing 3-84" CMP
Trash rack, see Structure Plans
Stop logs anchor, see DETAIL "1", Sheet 3
Existing wooden deck
Marina staff gage
Existing head wall w/ apron
Trash rack, see Structure Plans
Existing platform to be demolished
Proposed concrete platform w/ chain link fence and gate
2" C, 4#1 & 1#6 GND, conduit length 150 Ft.
Sawcut, remove and replace PCC, bricks and walkway and restore landscaping and irrigation system as necessary for the underground conduit installation
Exist DWP electrical meter,see NOTE #3 & #4
Exist irrigation controller
Exist observation deck

PLAN VIEW
SCALE : 1" = 10'


Existing guard rail
2-2" and 2-1"Conduit El. +10.83'
El. +13.50'
Existing wooden deck
Grand Canal staff gage
Max. W.S. El. +2.7'
Min. W.S. El.-1.0'
Inv. El.-4.70'
Existing 3-84" CMP
Molded fiberglass catwalk w/hand rails, see DETAIL "6", Sheet 5
7' Chain link fence, see Structure DWG.
Top of platform El. +12.30'
Marina staff gage, see DETAIL "6" Sheet 4, 5
18" Fiberglass walk through ladder
Inv. El. -5.20'
Pressure transducer layout, see DETAIL "3", Sheet 4

ELEVATION
SCALE : 1" = 10'

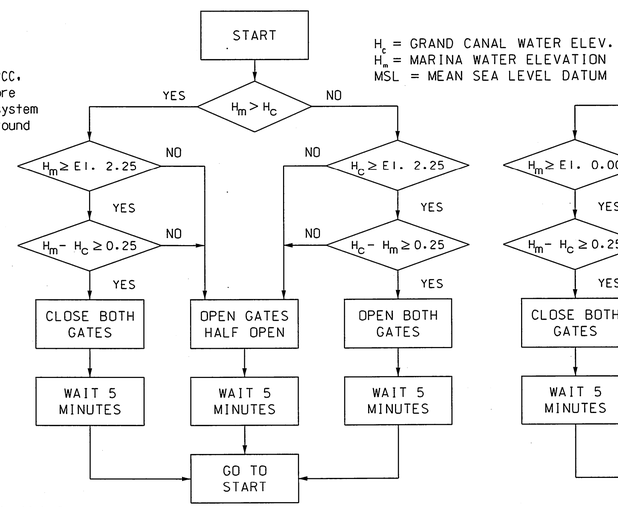
BENCH MARK

Control Pt. 15 @ ℄ of Via Marina
N 1,810,377.1970
E 6,423,692.5800
EL. 12.470

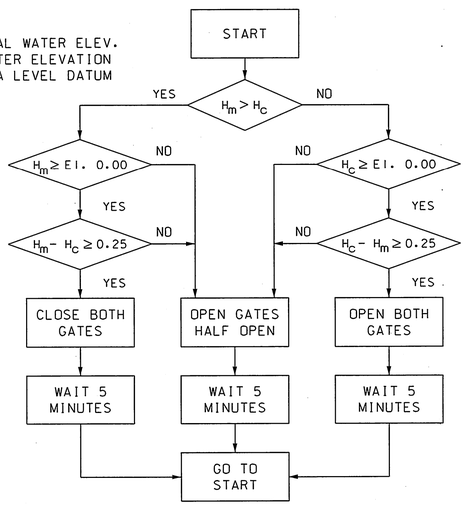
EQUIPMENT AND ACCESSORY SCHEDULE

Item No.	Description	Qty.	Remarks
1	84"x84" Slide gate assembly: 3.25" stainless steel rising stem, flush bottom closure, cast iron disc, and bronze seat.	2	Rodney Hunt HY-O Slide Gate or approved equal. See Mechanical Spec.
1A	EMO w/ 18" hand wheel: 40 ft-lb torque, 240 volts, 4 poles, 3 phase, 60 Hz, , out put speed = 9-12 ft/min	2	Limitorque L120-85 or approved equal. See Mechanical Spec.
2	84"Ø Flap gate assembly: cast iron disc, bronze seat, and double pivot	1	Rodney Hunt Flap Valve Series FV-AC or approved equal. See Mechanical Spec.
3	46"Wx57"Hx18"D NEMA 3R Control cabinet	1	See Electrical Spec.
4	2" and 1" Conduit (directional boring) △2	2	See Electrical Spec.
5	1" Couduit		See Electrical Spec.
6	Submersible pressure transducer w/ DMC	2	AMETEK MODEL 575SB or approved equal
7	10"Wx8"Hx4"D Electrical pull box	2	See Electrical Spec.
8	7'Wx3'H Aluminum stop logs	1	See Mechanical Spec.
9	2" Conduit to new DWP electrical meter service, underground conduit min. 18" below grade		See Electrical Spec.
10	New DWP electrical meter service	1	See NOTE #5 & #6
11	Grand Canal control cabinet	1	See Electrical Spec.
12	17"x10½" x12" Pullbox w/ bolt down steel cover	1	See Electrical Spec.

MARINA DEL REY TIDE GATES
SUMMER OPERATION - APRIL 15 - OCTOBER 14



MARINA DEL REY TIDE GATES
WINTER OPERATION - OCTOBER 15 - APRIL 14



H_c = GRAND CANAL WATER ELEV.
H_m = MARINA WATER ELEVATION
MSL = MEAN SEA LEVEL DATUM

SLIDE GATES OPERATION SEQUENCE

NOTES:

1. Elevations shown hereon are based on Mean Sea Level (MSL). To convert to Mean Low Low Water Elevation (MLLW): 0' (MSL) = +2.7' (MLLW)
2. The Contractor shall verify the existing dimensions that marked with " * ".
3. Existing DWP pedestal electrical meter service, meter # AM9-1017480, service address 150 Via Marina, and the adjacent irrigation controller cabinet to remain.
4. Remove existing circuit conductor(s) feeding the old slide gate from this service.
5. Coordinate with DWP to furnish and install a new pedestal electrical service, 100 Amp, 120/240V, 3-phase, 4 wire, to feed the new EMP & MCP for tidal gates as shown on the plans. Proposed address on this location: 150 A Via Marina.
6. Underground service cabinet, NEMA 4X stainless steel enclosure, padlockable "T" type handles, 100 Amp, 120/240V, 3-phase, 4 Wire, with 100 Amp service disconnect breaker, 42 kAIC, complete with meter socket and test blocks. Pad mounting base and anchor bolts. Myer Power Product, Inc., catalog No. MEUG26X or Agency approved equal.

△2 △1

M-01

DATE	MK	DESCRIPTION
6-6-11	△2	REVISED PER CITY
5-5-08	△1	REVISED CONDUIT TYPE PER CITY

REVISIONS

BUREAU OF ENGINEERING — CITY OF LOS ANGELES — FOUNDED 1781 — OFFICIAL RECORD

D-34542

REGISTERED PROFESSIONAL ENGINEER — P. CHANG — NO. M-29732 — EXP. 6/30/2008 — MECHANICAL — STATE OF CALIFORNIA

PROJECT ENGINEER 4/4/07 DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

GENERAL PLAN AND EQUIPMENT LIST

MARINA DEL REY TIDE GATES REHABILITATION

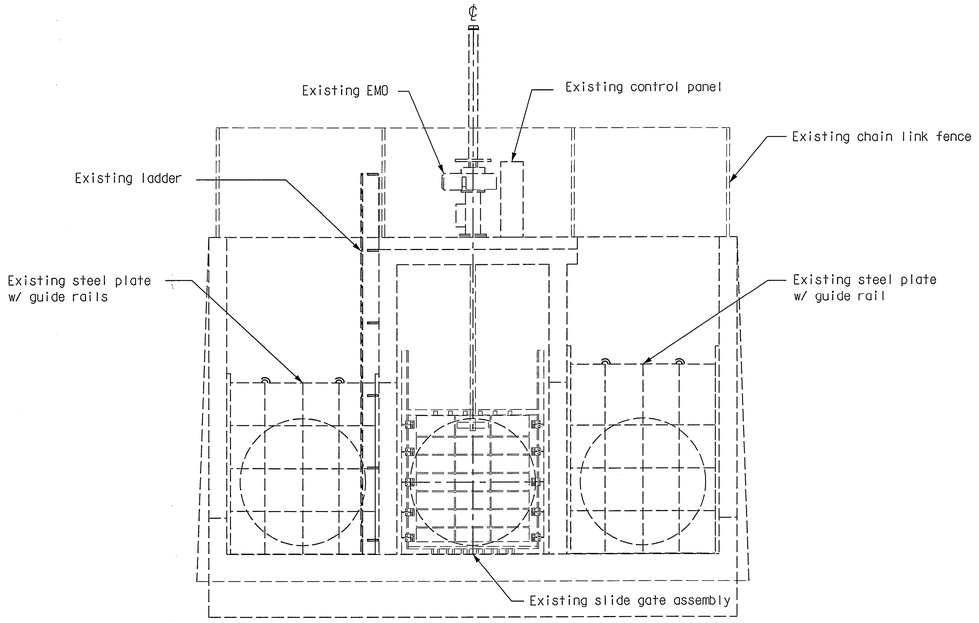
JOB D0000953 | DWG | SHEET 2 OF 15

PS-DF 5/99

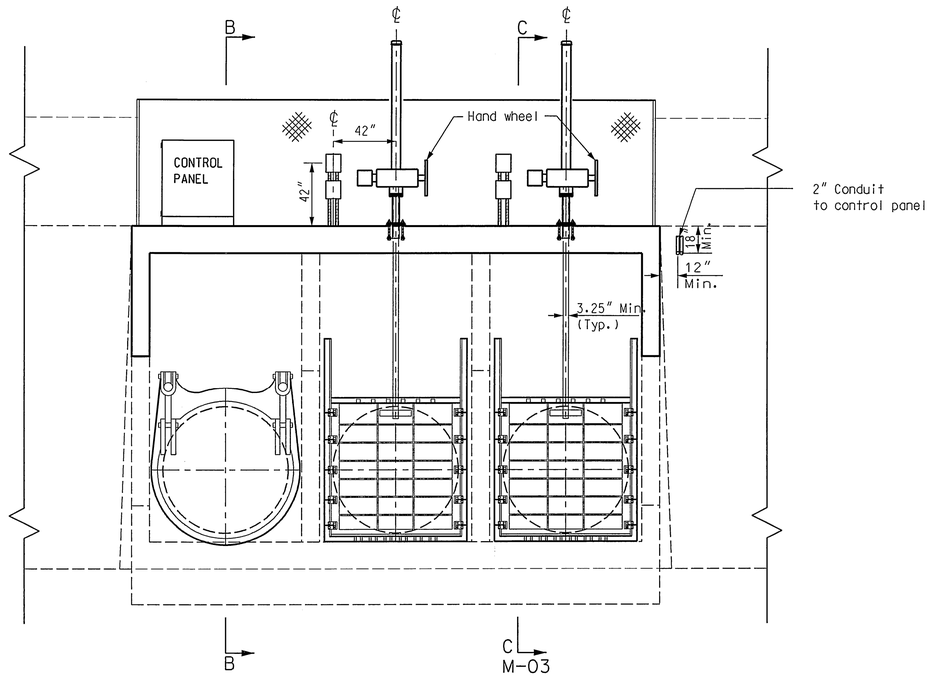
DRAFTER O. PONGPUN | DESIGNER O. PONGPUN | CHECKER P. CHANG | CADD PROJECT FILE NAME | REVIEWED BY PC DATE 4/4/2007

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

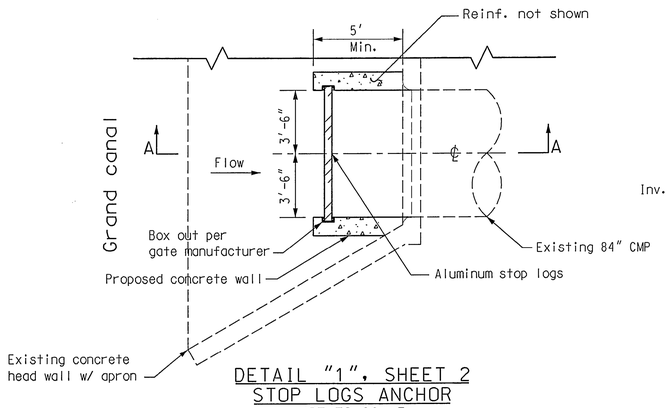
DATE: $DATE$ TIME: $TIME$ FILE: $FILE$



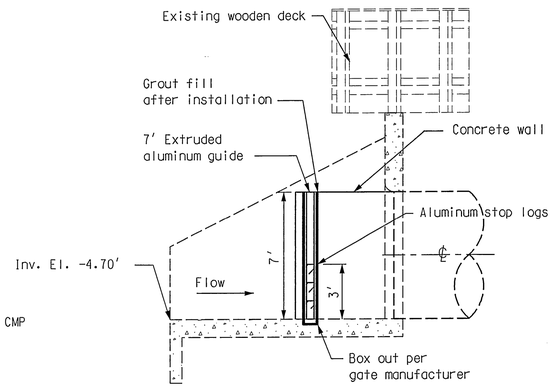
EXISTING EQUIPMENTS REMOVAL
NOT TO SCALE



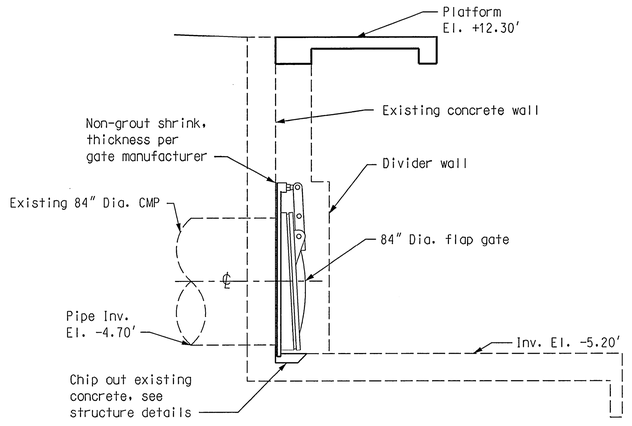
EQUIPMENT LAYOUT
SCALE: 1/4" = 1'-0"



DETAIL "1", SHEET 2
STOP LOGS ANCHOR
NOT TO SCALE
PLAN



SECTION A-A
NOT TO SCALE



SECTION B-B
SCALE: 1/4" = 1'-0"

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DRAFTER O. PONGPUN | DESIGNER O. PONGPUN | CHECKER P. CHANG | CADD PROJECT FILE NAME | REVIEWED BY [illegible] DATE 4/2/07

DATE	MK	DESCRIPTION
		REVISIONS

REGISTERED PROFESSIONAL ENGINEER
P. CHANG
NO. M-29732
EXP. 6/30/2008
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER 4/2/07 DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

EQUIPMENT REMOVAL AND INSTALLATION

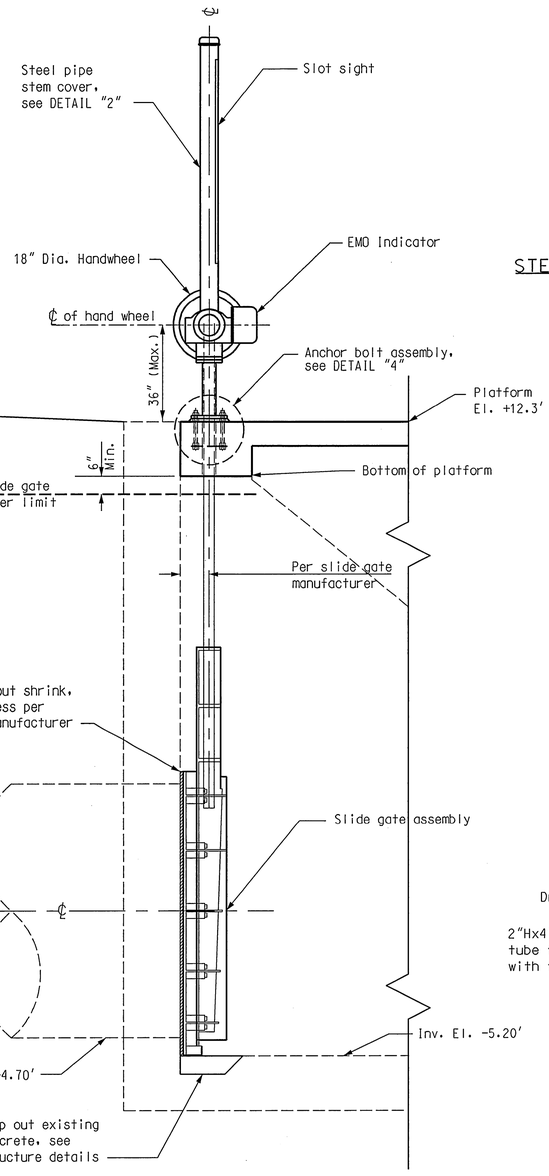
MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 3 OF 15

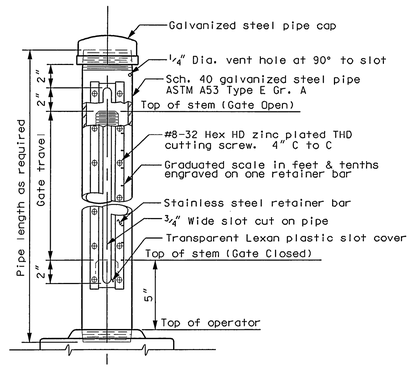
D-34542 M-02

PS-DF 5/99

DATE. $DATE$ TIME. $TIME$ FILE. $FILE$

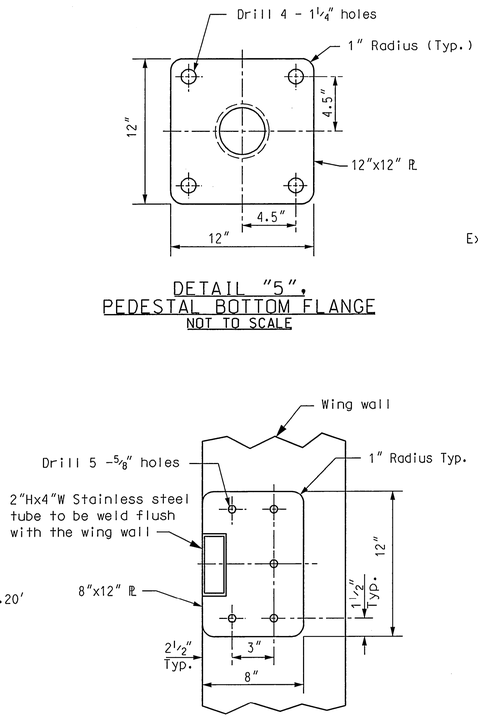


SECTION C-C, SHEET 3
SCALE: 1/4" = 1'0"

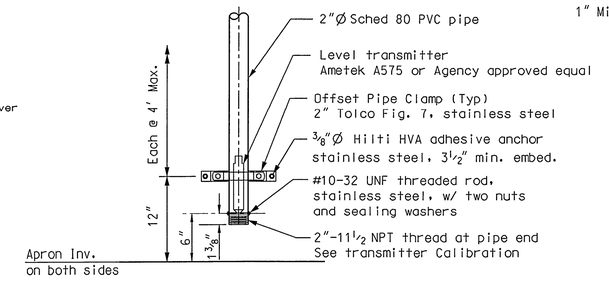

Galvanized steel pipe cap
1/4" Dia. vent hole at 90° to slot
Sch. 40 galvanized steel pipe ASTM A53 Type E Gr. A
Top of stem (Gate Open)
#8-32 Hex HD zinc plated THD cutting screw. 4" C to C
Graduated scale in feet & tenths engraved on one retainer bar
Stainless steel retainer bar
3/4" Wide slot cut on pipe
Transparent Lexan plastic slot cover
Top of stem (Gate Closed)
Top of operator
Pipe length as required
Gate travel
2"
2"
2"
5"

DETAIL "2",
STEEL PIPE STEM COVER (TYP.)
NOT TO SCALE

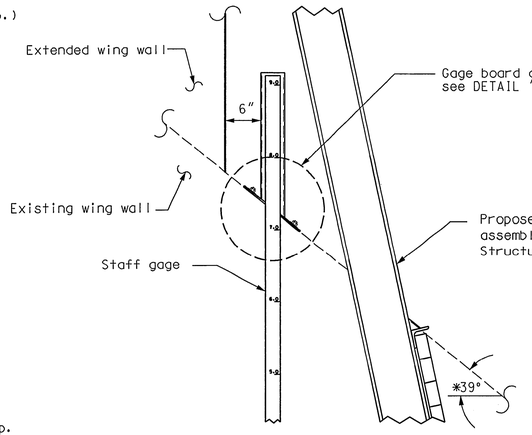
DETAIL "5",
PEDESTAL BOTTOM FLANGE
NOT TO SCALE



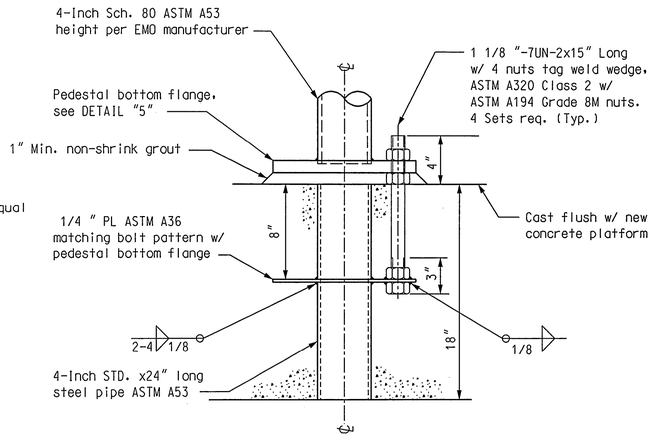
DETAIL "8",
GAGE BOARD ANCHOR PLATE
NOT TO SCALE


2"Ø Sched 80 PVC pipe
Level transmitter Ametek A575 or Agency approved equal
Offset Pipe Clamp (Typ) 2" Tolco Fig. 7, stainless steel
3/8"Ø Hilti HVA adhesive anchor stainless steel, 3 1/2" min. embed.
#10-32 UNF threaded rod, stainless steel, w/ two nuts and sealing washers
2"-11 1/2 NPT thread at pipe end See transmitter Calibration
Each @ 4' Max.
12"
6"
1 3/8"
Apron Inv. on both sides

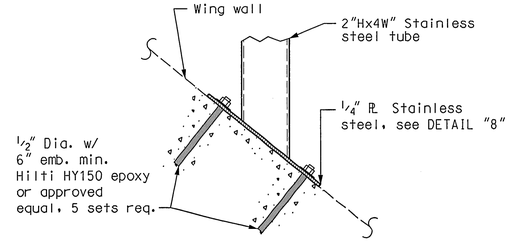
DETAIL "3", SHEET 2
PRESSURE TRANSDUCER LAYOUT (TYP.)
NOT TO SCALE



DETAIL "6",
MARINA STAFF GAGE
NOT TO SCALE


4-Inch Sch. 80 ASTM A53 height per EMO manufacturer
Pedestal bottom flange, see DETAIL "5"
1" Min. non-shrink grout
1/4 " PL ASTM A36 matching bolt pattern w/ pedestal bottom flange
4-Inch STD. x24" long steel pipe ASTM A53
1 1/8 "-7UN-2x15" Long w/ 4 nuts tag weld wedge, ASTM A320 Class 2 w/ ASTM A194 Grade 8M nuts. 4 Sets req. (Typ.)
Cast flush w/ new concrete platform
4"
8"
3"
18"
2-4 1/8
1/8

DETAIL "4",
ANCHOR BOLT ASSEMBLY
NOT TO SCALE


Wing wall
2"Hx4W" Stainless steel tube
1/4" PL Stainless steel, see DETAIL "8"
1/2" Dia. w/ 6" emb. min. Hilti HY150 epoxy or approved equal, 5 sets req.

DETAIL "7",
GAGE BOARD ASSEMBLY
NOT TO SCALE

DRAFTER	DESIGNER	CHECKER	CADD PROJECT FILE NAME	REVIEWED By	DATE
O. PONGPUN	O. PONGPUN	P. CHANG			6/2/07

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE	MK	DESCRIPTION

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
P. CHANG
NO. M-29732
EXP. 6/30/2008
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER — DATE 4/4/07

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
CALIFORNIA
ESTABLISHED 1850
OFFICIAL RECORD

D-34542 M-03

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

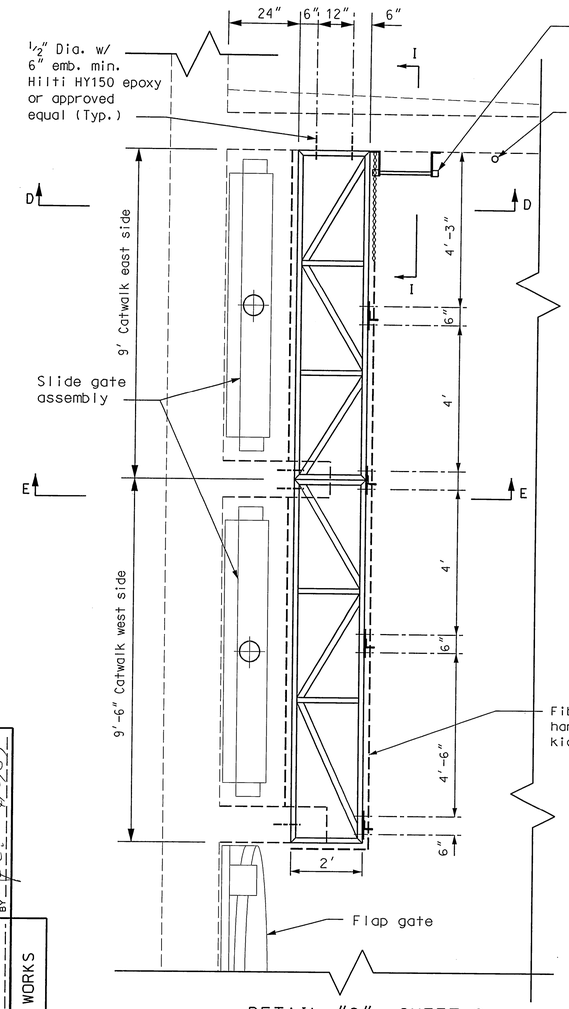
SLIDE GATE AND APPURTENANCE INSTALLATION

MARINA DEL REY
TIDE GATES REHABILITATION

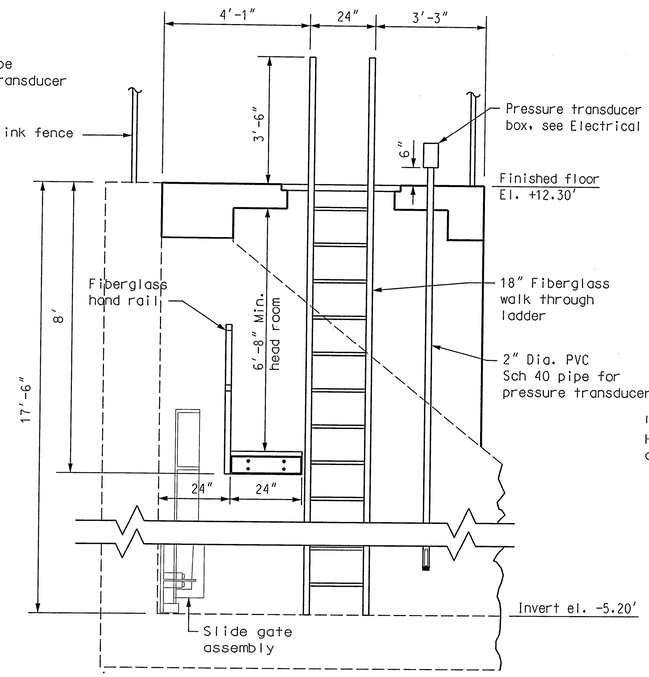
JOB D0000953 | DWG | SHEET 4 OF 15

PS-DF 3/99

DATE. $DATE$ TIME. $TIME$ FILE. $FILE$



DETAIL "6", SHEET 2
CATWALK AND LADDER PLAN
SCALE: 1/2 " = 1'-0"



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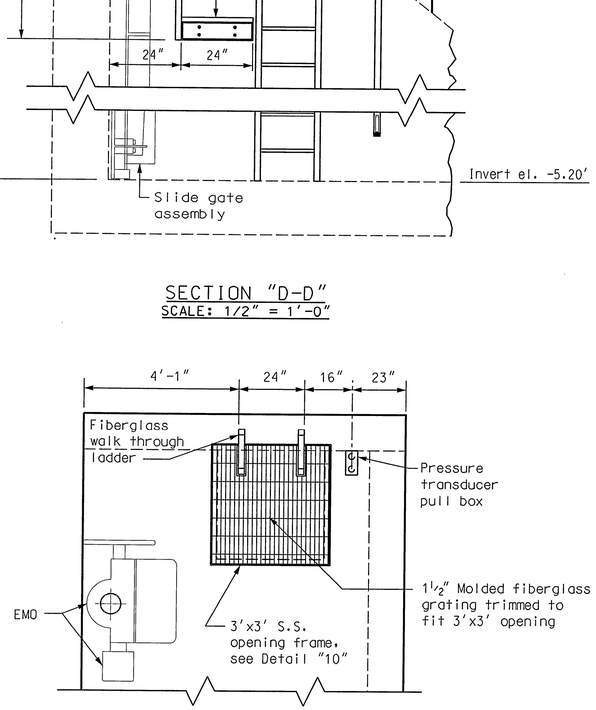
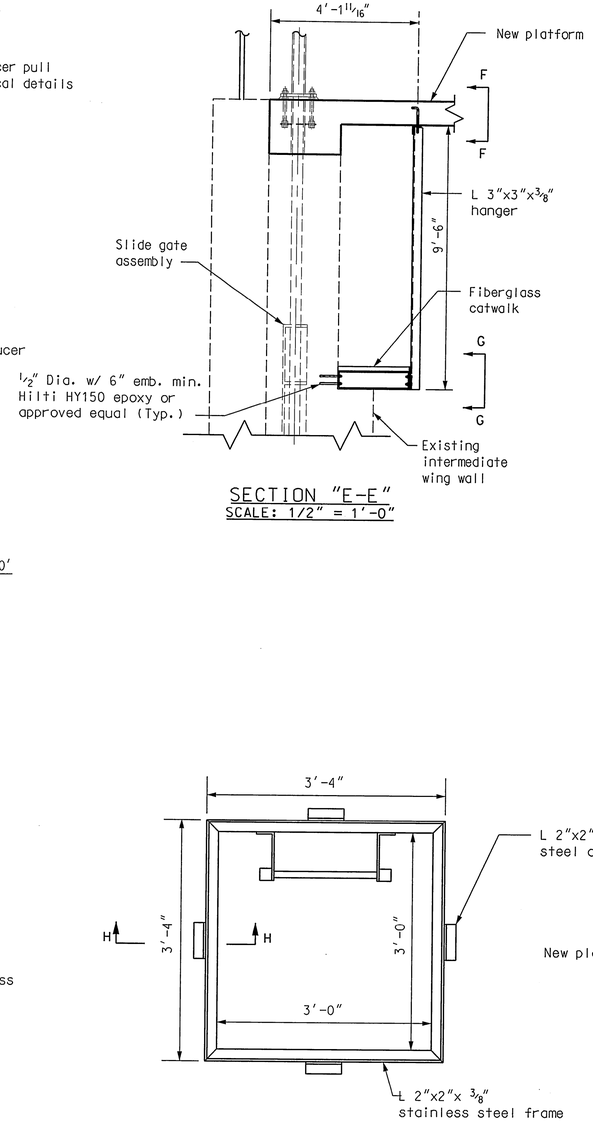
SCALE: 1/2" = 1'-0"



DETAIL "9", SHEET 2
FIBERGLASS HATCH
SCALE: 1/2 " = 1'-0"



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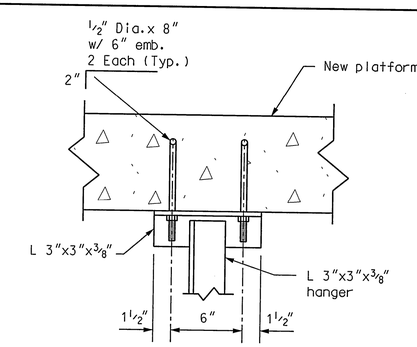
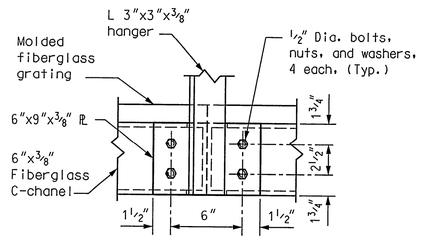
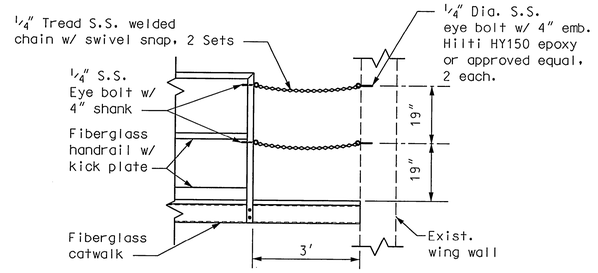


SECTION "F-F",
UPPER HANGER ANCHOR (TYP.)
SCALE: 2" = 1'-0"



SECTION "G-G",
BOTTOM HANGER MOUNT (TYP.)
SCALE: 2" = 1'-0"


1/4" Tread S.S. welded chain w/ swivel snap, 2 Sets
1/4" Dia. S.S. eye bolt w/ 4" emb. Hilti HY150 epoxy or approved equal, 2 each.
1/4" S.S. Eye bolt w/ 4" shank
Fiberglass handrail w/ kick plate
19"
19"
Fiberglass catwalk
3'
Exist. wing wall

SECTION "I-I",
SAFETY CHAIN ANCHOR
SCALE: 1/2 " = 1'-0"

DETAIL "10",
HATCH OPENING FRAME
SCALE: 1" = 1'-0"

SECTION "H-H"
SCALE: 2" = 1'-0"

BUREAU OF ENGINEERING
CITY OF LOS ANGELES
FOUNDED 1781
OFFICIAL RECORD

D-34542 M-04

DRAFTER	DESIGNER	CHECKER	CADD PROJECT FILE NAME	REVIEWED BY	DATE
D. PONGPUN	D. PONGPUN	P. CHANG		P. C.	4/2/07

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE	MK	DESCRIPTION

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
P. CHANG
NO. M-29732
EXP. 6/30/2008
MECHANICAL
STATE OF CALIFORNIA

PROJECT ENGINEER 4/4/07 DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

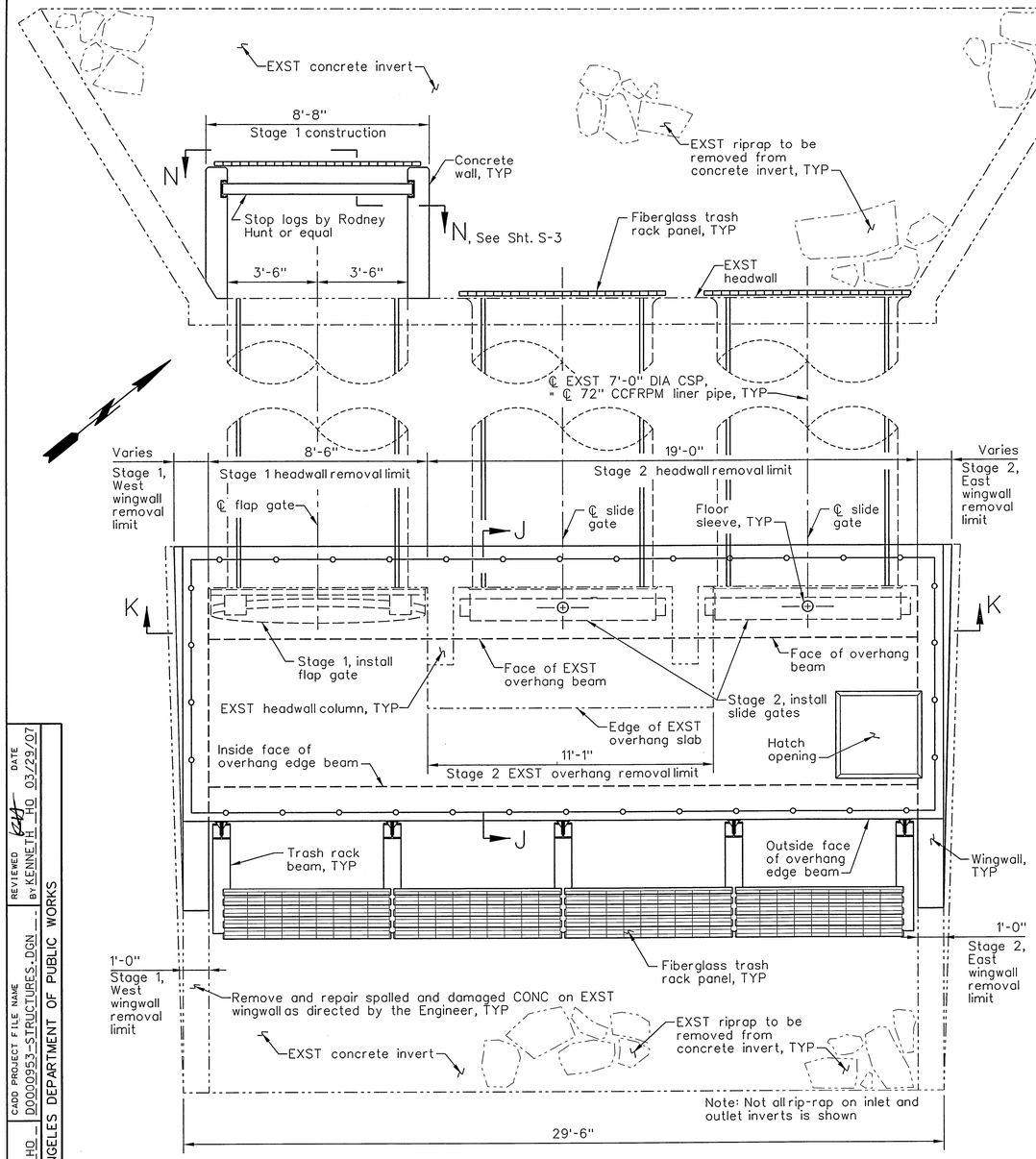
CATWALK AND LADDER DETAILS

MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 5 OF 15

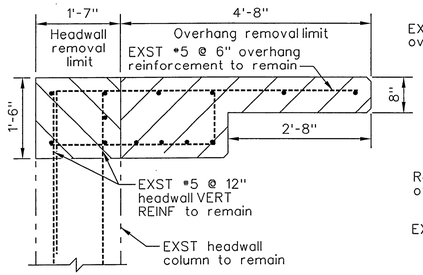
PS-DF 5/99

DATE. $DATE$ TIME. $TIME$ FILE. $FILE$


EXST concrete invert
8'-8"
Stage 1 construction
N
Concrete wall, TYP
Stop logs by Rodney Hunt or equal
N, See Sht. S-3
3'-6"
3'-6"
EXST riprap to be removed from concrete invert, TYP
Fiberglass trash rack panel, TYP
EXST headwall
℄ EXST 7'-0" DIA CSP, = ℄ 72" CCFRPM liner pipe, TYP
Varies
Stage 1, West wingwall removal limit
8'-6"
Stage 1 headwall removal limit
19'-0"
Stage 2 headwall removal limit
Varies
Stage 2, East wingwall removal limit
℄ flap gate
J
℄ slide gate
Floor sleeve, TYP
℄ slide gate
K
K
Stage 1, install flap gate
Face of EXST overhang beam
Face of overhang beam
EXST headwall column, TYP
Stage 2, install slide gates
Edge of EXST overhang slab
Hatch opening
Inside face of overhang edge beam
11'-1"
Stage 2 EXST overhang removal limit
J
Trash rack beam, TYP
Outside face of overhang edge beam
Wingwall, TYP
1'-0"
Stage 2, East wingwall removal limit
Fiberglass trash rack panel, TYP
1'-0"
Stage 1, West wingwall removal limit
Remove and repair spalled and damaged CONC on EXST wingwall as directed by the Engineer, TYP
EXST concrete invert
EXST riprap to be removed from concrete invert, TYP
Note: Not all rip-rap on inlet and outlet inverts is shown
29'-6"

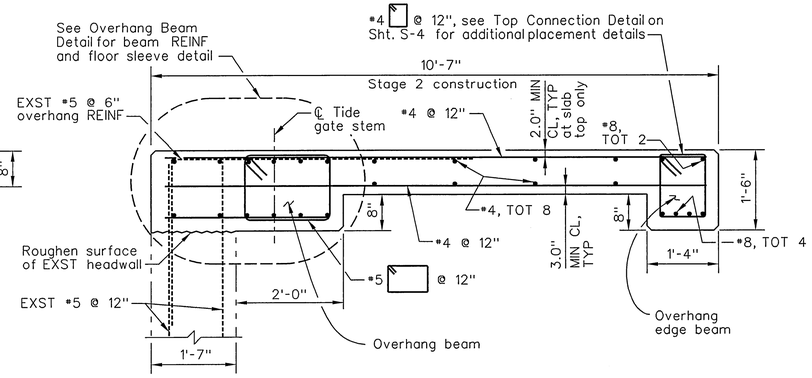
STRUCTURE PLAN

Scale: 3/8 " = 1'-0"



HEADWALL AND OVERHANG REMOVAL

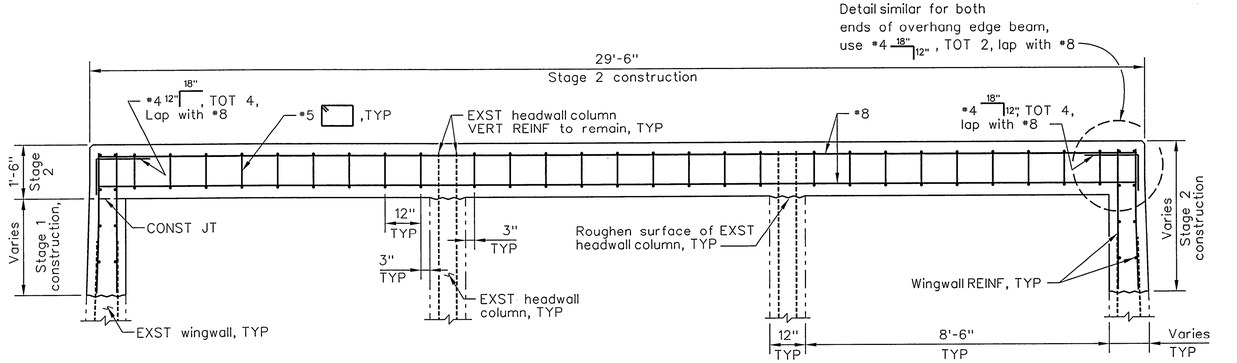
Note: ▨ Removal limit



HEADWALL AND OVERHANG

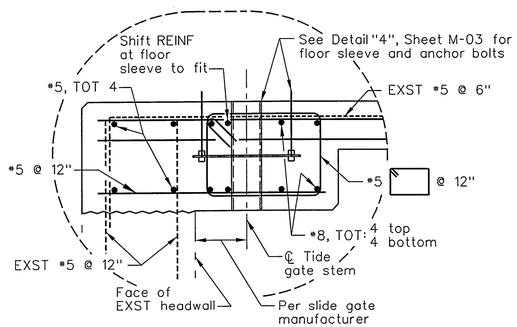
SECTION J-J

Scale: 3/4 " = 1'-0"


Detail similar for both ends of overhang edge beam, use *4 18" 12", TOT 2, lap with *8
29'-6"
Stage 2 construction
*4 18" 12", TOT 4, Lap with *8
*5 ,TYP
EXST headwall column VERT REINF to remain, TYP
*8
*4 18" 12", TOT 4, lap with *8
1'-6" Stage 2
Varies Stage 1 construction,
CONST JT
12" TYP
3" TYP
3" TYP
Roughen surface of EXST headwall column, TYP
Wingwall REINF, TYP
Varies Stage 2 construction
EXST headwall column, TYP
EXST wingwall, TYP
12" TYP
8'-6" TYP
Varies TYP

SECTION K-K

Scale: 1/2" = 1'-0"


Shift REINF at floor sleeve to fit
See Detail "4", Sheet M-03 for floor sleeve and anchor bolts
*5, TOT 4
EXST *5 @ 6"
*5 @ 12"
*5 @ 12"
*8, TOT: 4 top 4 bottom
℄ Tide gate stem
EXST *5 @ 12"
Face of EXST headwall
Per slide gate manufacturer

OVERHANG BEAM DETAIL

Scale: 1" = 1'-0"

GENERAL NOTES

DESIGN:	American Concrete Institute: Building Code Requirements For Structural Concrete (ACI 318-02) and Commentaries (ACI 318R-02)	
	American Institute of Steel Construction, Inc.: Manual of Steel Construction Load and Resistance Factor Design (LRFD) Third Edition	
DESIGN STRESSES:	Concrete:	f'c = 5,000 psi
	Reinforcing Steel (A706):	fy = 60,000 psi
	Structural Steel (A276):	fy = 30,000 psi
	Welding Structural Steel (AWS D1.6):	Electrodes - Fu = 70 ksi MIN
DESIGN LOAD:	Max. motor stall thrust:	38,200 lbs.
	Floor load:	125 psf
CONSTRUCTION:	Standard Specifications for Public Works Construction 2006 Edition (Greenbook). Additions and Amendments to the Standard Specifications for Public Works Construction, 2006 Edition.	

NOTES:

1. During removal, use 1.5" MIN sawcut at existing edges
2. Within removal limits, existing reinforcement shall be removed unless otherwise noted.
3. Existing reinforcement to remain shall be cleaned and free of corrosion.
4. All new reinforcement shall be epoxy-coated in compliance with ASTM A775.
5. Place and install floor sleeves according to manufacturer's specs.
6. All fasteners shall include 316 stainless steel bolt (fy = 30 ksi MIN), nut, and washer.
7. All bolt holes shall be standard size, unless otherwise noted.
8. All epoxy adhesive anchors shall be Hilti HIT RE 500 or equal. Anchors shall be 316 stainless steel threaded rods (fy = 65 ksi MIN), washer, and nut, unless otherwise noted.
9. All drill and bond epoxy adhesive dowels shall use epoxy-coated reinforcement.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

D-34542

S-01

DATE	MK	DESCRIPTION
		REVISIONS

SCOTT GREGOWSKE NO. 68087 EXP. 06/30/07 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

PROJECT ENGINEER 4/02/07 DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

STRUCTURE PLAN AND OVERHANG DETAILS

MARINA DEL REY
TIDE GATES REHABILITATION

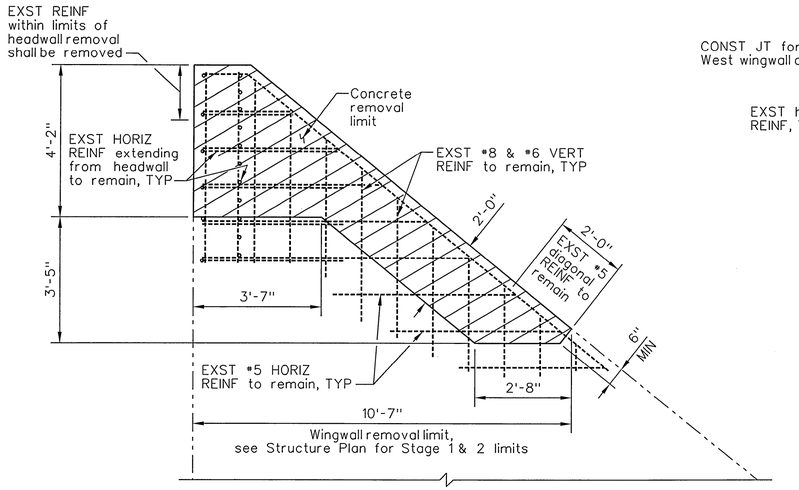
JOB D0000953 | DWG | SHEET 06 OF 15

PS-DF 5/99

DRAFTER S. GREGOWSKE | DESIGNER S. GREGOWSKE | CHECKER KENNETH HO | CADD PROJECT FILE NAME D0000953-STRUCTURES.DGN | REVIEWED by KENNETH HO 03/29/07 | DATE

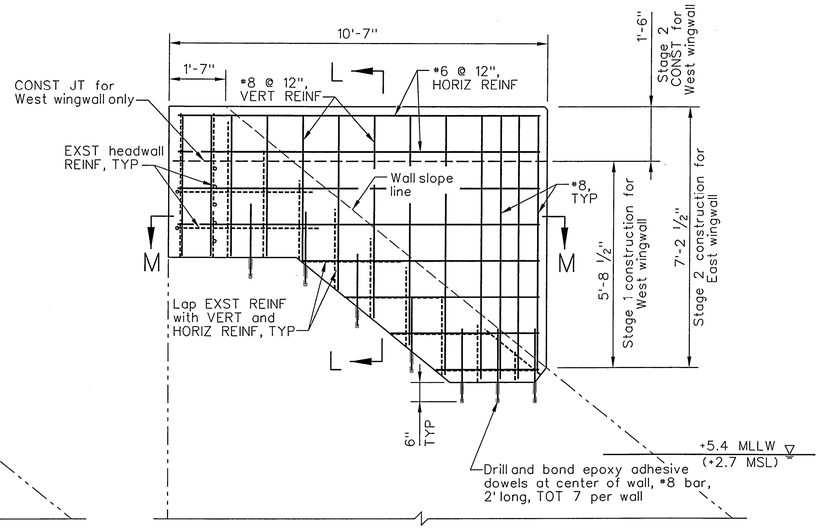
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE: $DATE$ TIME: $TIME$ FILE: $FILE$


EXST REINF within limits of headwall removal shall be removed
Concrete removal limit
EXST HORIZ REINF extending from headwall to remain, TYP
EXST *8 & *6 VERT REINF to remain, TYP
4'-2"
3'-5"
2'-0"
2'-0"
EXST diagonal *5 REINF to remain
3'-7"
6" MIN
EXST *5 HORIZ REINF to remain, TYP
2'-8"
10'-7"
Wingwall removal limit, see Structure Plan for Stage 1 & 2 limits

WINGWALL REMOVAL

Note: ▨ Removal limit

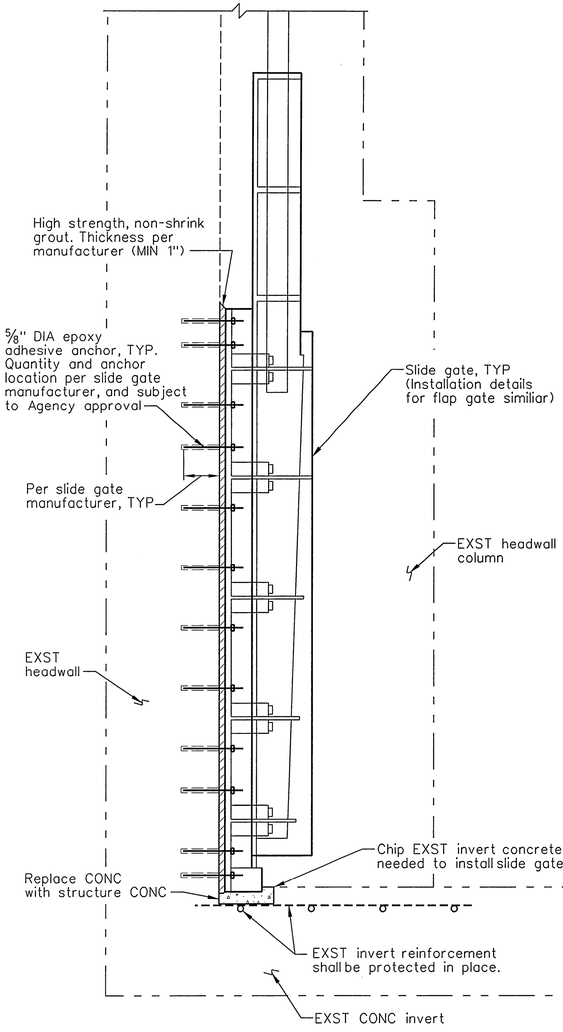

10'-7"
1'-7"
*8 @ 12", VERT REINF
*6 @ 12", HORIZ REINF
CONST JT for West wingwall only
EXST headwall REINF, TYP
Wall slope line
*8, TYP
M
M
Lap EXST REINF with VERT and HORIZ REINF, TYP
1'-6"
Stage 2 CONST for West wingwall
5'-8 1/2"
Stage 1 construction for West wingwall
7'-2 1/2"
Stage 2 construction for East wingwall
6" TYP
+5.4 MLLW (+2.7 MSL)
Drill and bond epoxy adhesive dowels at center of wall, *8 bar, 2' long, TOT 7 per wall

WINGWALL

Note: Reinforcement from overhang slab and beams not shown for clarity

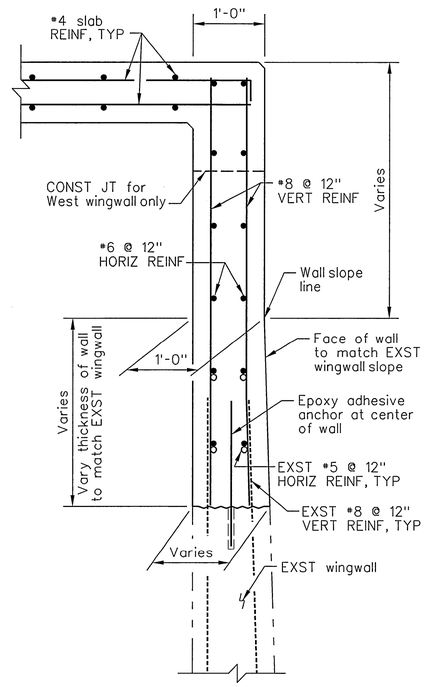
WINGWALL ELEVATION

Scale: 1/2" = 1'-0"


High strength, non-shrink grout. Thickness per manufacturer (MIN 1")
5/8" DIA epoxy adhesive anchor, TYP. Quantity and anchor location per slide gate manufacturer, and subject to Agency approval
Slide gate, TYP (Installation details for flap gate similiar)
Per slide gate manufacturer, TYP
EXST headwall column
EXST headwall
Chip EXST invert concrete as needed to install slide gate
Replace CONC with structure CONC
EXST invert reinforcement shall be protected in place.
EXST CONC invert

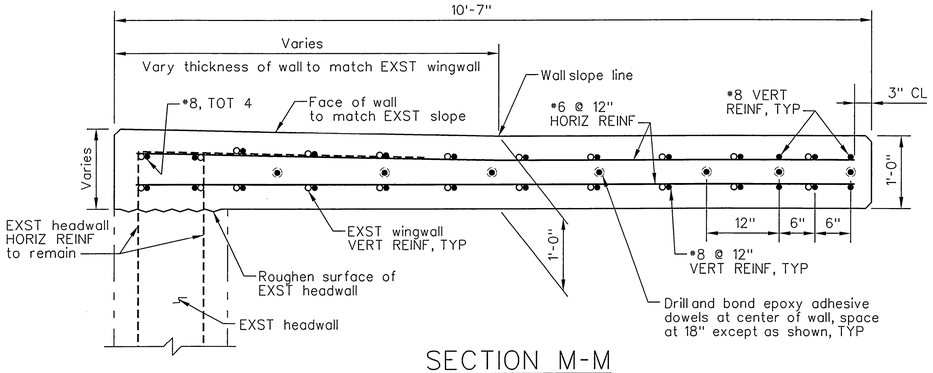
SLIDE GATE INSTALLATION DETAILS

Scale: 1" = 1'-0"


*4 slab REINF, TYP
1'-0"
CONST JT for West wingwall only
*8 @ 12" VERT REINF
Varies
*6 @ 12" HORIZ REINF
Wall slope line
Face of wall to match EXST wingwall slope
1'-0"
Varies
Vary thickness of wall to match EXST wingwall
Epoxy adhesive anchor at center of wall
EXST *5 @ 12" HORIZ REINF, TYP
EXST *8 @ 12" VERT REINF, TYP
Varies
EXST wingwall

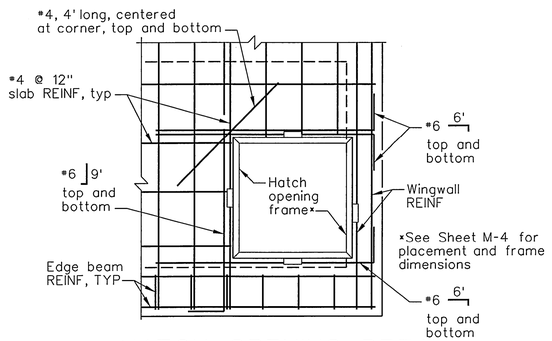
SECTION L-L

Scale: 1" = 1'-0"



SECTION M-M

Scale: 1" = 1'-0"


*4, 4' long, centered at corner, top and bottom
*4 @ 12" slab REINF, typ
*6 6' top and bottom
*6 9' top and bottom
Hatch opening frame*
Wingwall REINF
*See Sheet M-4 for placement and frame dimensions
Edge beam REINF, TYP
*6 6' top and bottom

HATCH OPENING DETAIL

Scale: 1/2" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DATE	MK	DESCRIPTION
		REVISIONS

BUREAU OF ENGINEERING — CITY OF LOS ANGELES — ENGINEER 108 — OFFICIAL RECORD

REGISTERED PROFESSIONAL ENGINEER — SCOTT GREGOWSKE — NO. 68087 — EXP. 06/30/07 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER 4/02/07 DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

OUTLET WINGWALL AND SLIDE GATE DETAILS

MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 07 OF 15

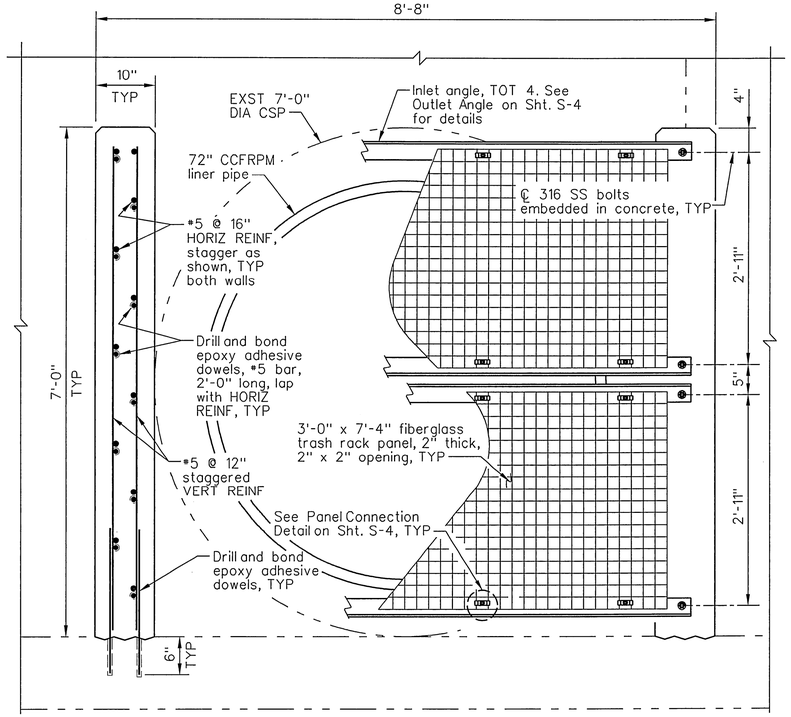
D-34542 S-02

PS-DF 5/99

DRAFTER S. GREGOWSKE | DESIGNER S. GREGOWSKE | CHECKER KENNETH HO | CADD PROJECT FILE NAME D0000953-STRUCTURES.DGN | REVIEWED BY KENNETH HO DATE 03/29/07

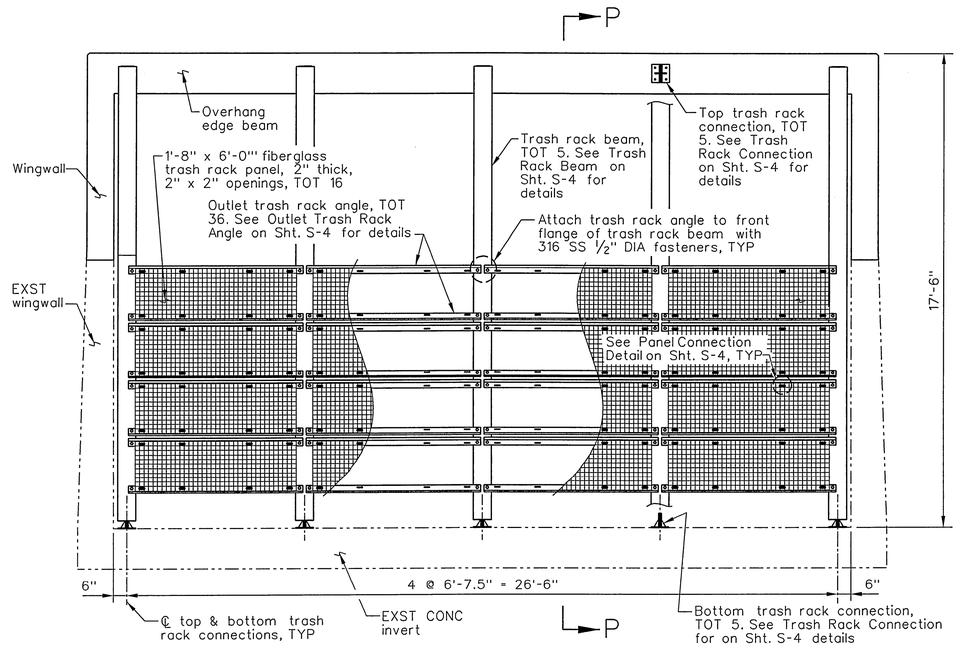
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE: $DATE$ TIME: $TIME$ FILE: $FILE$


8'-8"
10" TYP
EXST 7'-0" DIA CSP
Inlet angle, TOT 4. See Outlet Angle on Sht. S-4 for details
72" CCFRPM liner pipe
℄ 316 SS bolts embedded in concrete, TYP
#5 @ 16" HORIZ REINF, stagger as shown, TYP both walls
Drill and bond epoxy adhesive dowels, #5 bar, 2'-0" long, lap with HORIZ REINF, TYP
3'-0" x 7'-4" fiberglass trash rack panel, 2" thick, 2" x 2" opening, TYP
#5 @ 12" staggered VERT REINF
See Panel Connection Detail on Sht. S-4, TYP
Drill and bond epoxy adhesive dowels, TYP
4"
2'-11"
5"
2'-11"
7'-0" TYP
6" TYP

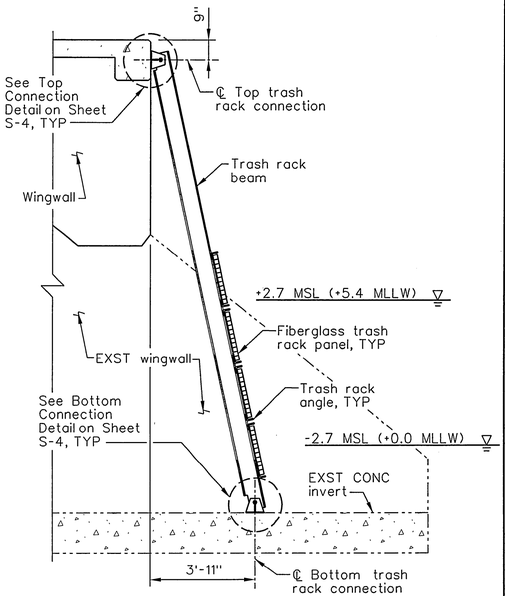
SECTION N-N

Scale: 1" = 1'-0"


P
Overhang edge beam
Wingwall
1'-8" x 6'-0" fiberglass trash rack panel, 2" thick, 2" x 2" openings, TOT 16
Outlet trash rack angle, TOT 36. See Outlet Trash Rack Angle on Sht. S-4 for details
Trash rack beam, TOT 5. See Trash Rack Beam on Sht. S-4 for details
Top trash rack connection, TOT 5. See Trash Rack Connection on Sht. S-4 for details
Attach trash rack angle to front flange of trash rack beam with 316 SS 1/2" DIA fasteners, TYP
EXST wingwall
See Panel Connection Detail on Sht. S-4, TYP
17'-6"
6"
4 @ 6'-7.5" = 26'-6"
6"
℄ top & bottom trash rack connections, TYP
EXST CONC invert
Bottom trash rack connection, TOT 5. See Trash Rack Connection for on Sht. S-4 details
P

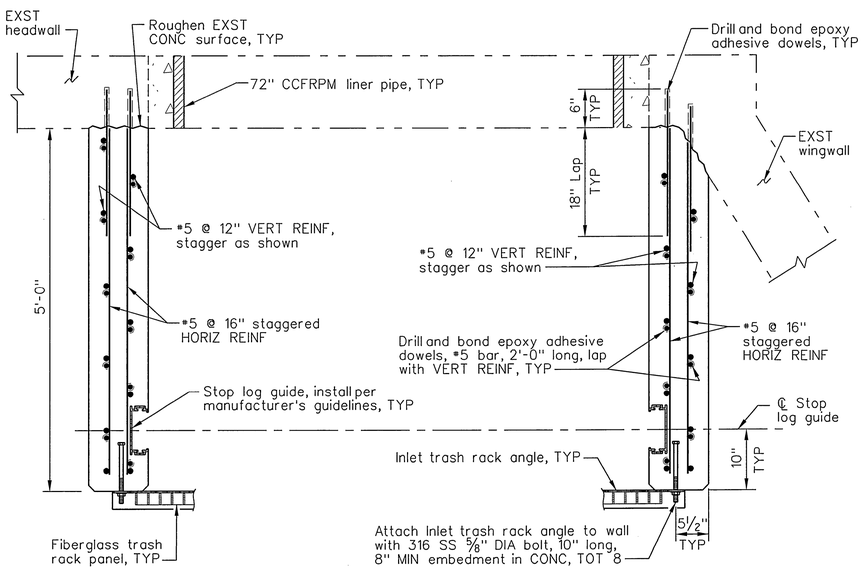
OUTLET TRASH RACK ELEVATION

Scale: 3/8" = 1'-0"



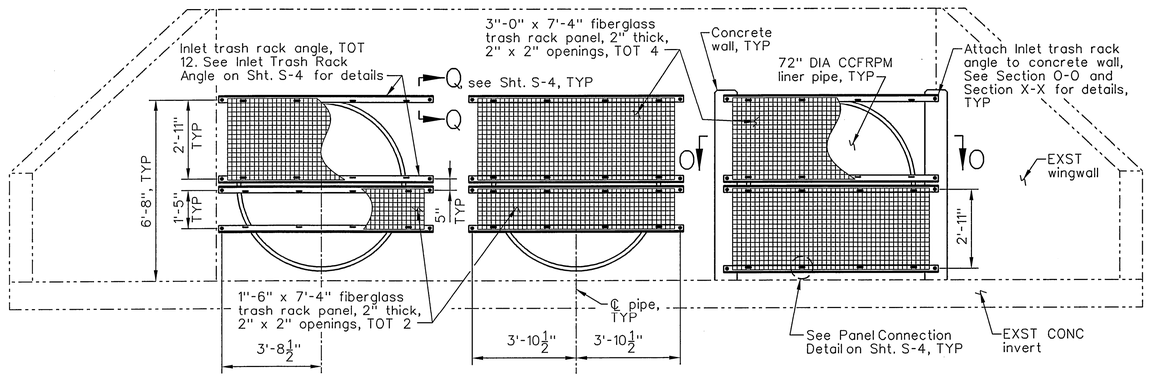
SECTION P-P

Scale: 3/8" = 1'-0"


EXST headwall
Roughen EXST CONC surface, TYP
72" CCFRPM liner pipe, TYP
Drill and bond epoxy adhesive dowels, TYP
6" TYP
18" Lap TYP
EXST wingwall
#5 @ 12" VERT REINF, stagger as shown
#5 @ 12" VERT REINF, stagger as shown
5'-0"
#5 @ 16" staggered HORIZ REINF
Drill and bond epoxy adhesive dowels, #5 bar, 2'-0" long, lap with VERT REINF, TYP
#5 @ 16" staggered HORIZ REINF
Stop log guide, install per manufacturer's guidelines, TYP
℄ Stop log guide
Inlet trash rack angle, TYP
10" TYP
Fiberglass trash rack panel, TYP
Attach Inlet trash rack angle to wall with 316 SS 5/8" DIA bolt, 10" long, 8" MIN embedment in CONC, TOT 8
5 1/2" TYP

SECTION O-O

Scale: 1" = 1'-0"


Inlet trash rack angle, TOT 12. See Inlet Trash Rack Angle on Sht. S-4 for details
3'-0" x 7'-4" fiberglass trash rack panel, 2" thick, 2" x 2" openings, TOT 4
Concrete wall, TYP
see Sht. S-4, TYP
Q
Q
72" DIA CCFRPM liner pipe, TYP
Attach Inlet trash rack angle to concrete wall, See Section O-O and Section X-X for details, TYP
O
O
EXST wingwall
6'-8", TYP
2'-11" TYP
1'-5" TYP
5" TYP
2'-11"
1'-6" x 7'-4" fiberglass trash rack panel, 2" thick, 2" x 2" openings, TOT 2
℄ pipe, TYP
3'-8 1/2"
3'-10 1/2"
3'-10 1/2"
See Panel Connection Detail on Sht. S-4, TYP
EXST CONC invert

INLET TRASH RACK ELEVATION

Scale: 3/8" = 1'-0"

Note: All dimensions are shown from the ℄ of 11/16" DIA bolt holes on the Inlet trash rack angles

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DRAFTER	DESIGNER	CHECKER	CADD PROJECT FILE NAME	REVIEWED	DATE
S. GREGOWSKE	S. GREGOWSKE	KENNETH HO	D0000953-STRUCTURES.DGN	By KENNETH HO	03/29/07

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE	MK	DESCRIPTION
		REVISIONS

REGISTERED PROFESSIONAL ENGINEER — SCOTT GREGOWSKE — NO. 68087 — EXP. 06/30/07 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER — DATE 4/02/07

BUREAU OF ENGINEERING — CITY OF LOS ANGELES — ESTABLISHED 1905 — OFFICIAL RECORD

D-34542 S-03

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

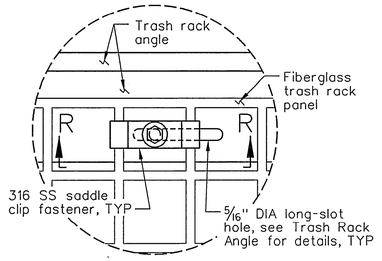
CONCRETE WALL AND TRASH RACK

MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 08 OF 15

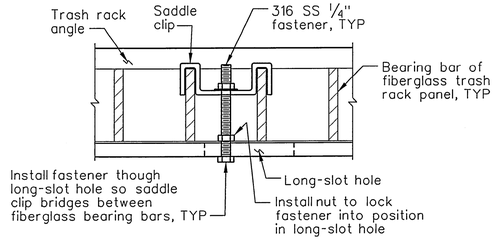
PS-DF 5/99

DATE: $DATE$ TIME: $TIME$ FILE: $FILE$


Trash rack angle
Fiberglass trash rack panel
R
R
316 SS saddle clip fastener, TYP
5/16" DIA long-slot hole, see Trash Rack Angle for details, TYP

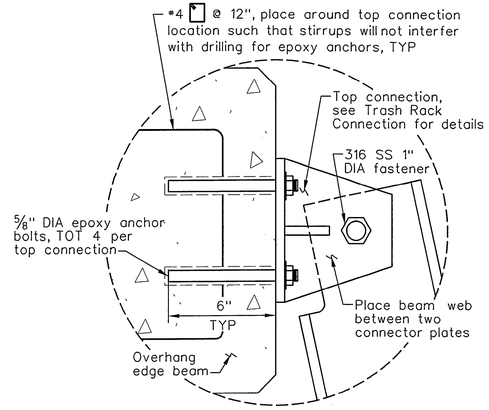
PANEL CONNECTION DETAIL

Scale: 1/2" = 1"


Trash rack angle
Saddle clip
316 SS 1/4" fastener, TYP
Bearing bar of fiberglass trash rack panel, TYP
Install fastener though long-slot hole so saddle clip bridges between fiberglass bearing bars, TYP
Long-slot hole
Install nut to lock fastener into position in long-slot hole

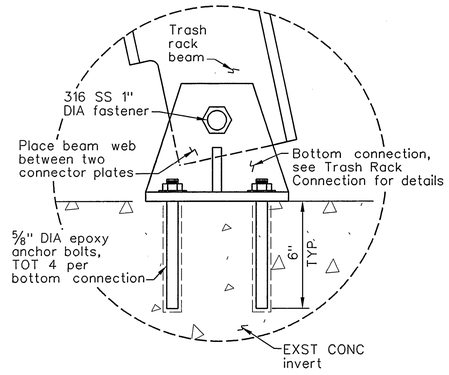
SECTION R-R

Scale: 1/2" = 1"


#4 @ 12", place around top connection location such that stirrups will not interfer with drilling for epoxy anchors, TYP
Top connection, see Trash Rack Connection for details
316 SS 1" DIA fastener
5/8" DIA epoxy anchor bolts, TOT 4 per top connection
6" TYP
Place beam web between two connector plates
Overhang edge beam

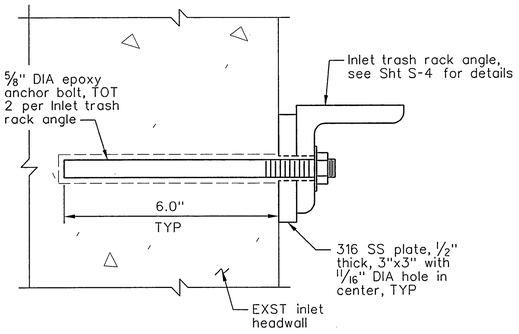
TOP CONNECTION DETAIL

Scale: 1/4" = 1"


Trash rack beam
316 SS 1" DIA fastener
Place beam web between two connector plates
Bottom connection, see Trash Rack Connection for details
5/8" DIA epoxy anchor bolts, TOT 4 per bottom connection
6" TYP.
EXST CONC invert

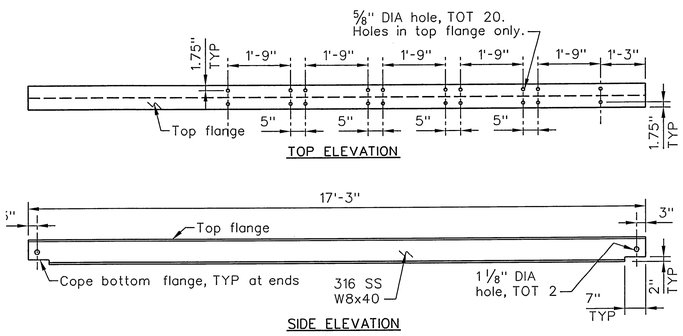
BOTTOM CONNECTION DETAIL

Scale: 1/4" = 1"


5/8" DIA epoxy anchor bolt, TOT 2 per Inlet trash rack angle
Inlet trash rack angle, see Sht S-4 for details
6.0" TYP
316 SS plate, 1/2" thick, 3"x3" with 11/16" DIA hole in center, TYP
EXST inlet headwall

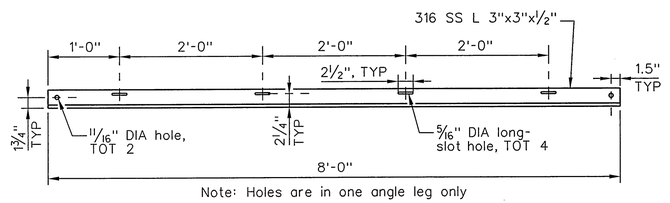
SECTION Q-Q

Scale: 1/2" = 1"



TRASH RACK BEAM

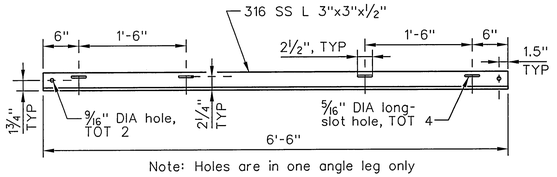
Scale: 1/2" = 1'-0"



Note: Holes are in one angle leg only

INLET TRASH RACK ANGLE

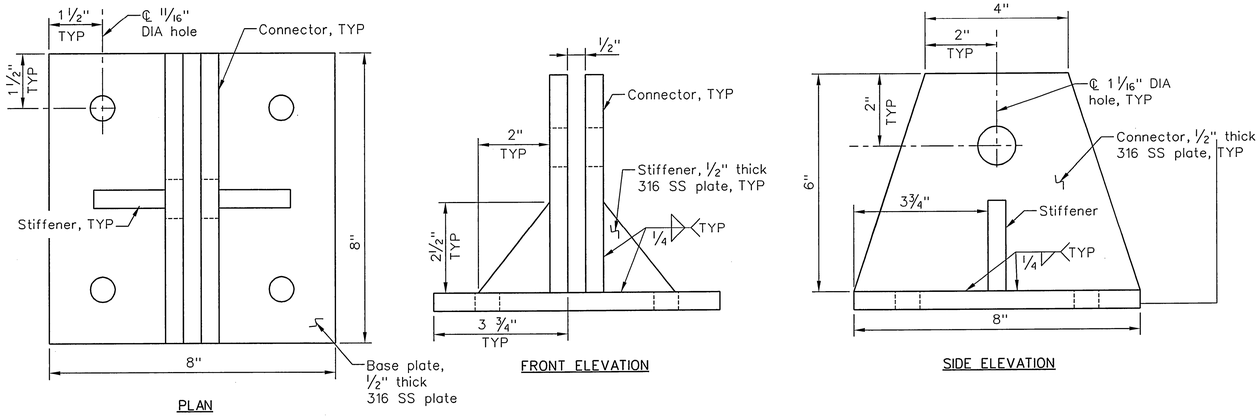
Scale: 1" = 1'-0"



Note: Holes are in one angle leg only

OUTLET TRASH RACK ANGLE

Scale: 1" = 1'-0"



TRASH RACK CONNECTION

Scale: 1/2" = 1"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DATE	MK	DESCRIPTION
		REVISIONS

SCOTT GREGOWSKE
REGISTERED PROFESSIONAL ENGINEER
NO. 68087
EXP. 06/30/07
CIVIL
STATE OF CALIFORNIA

4/02/07
PROJECT ENGINEER — DATE

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

TRASH RACK DETAILS

MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 09 OF 15

PS-DF 5/99

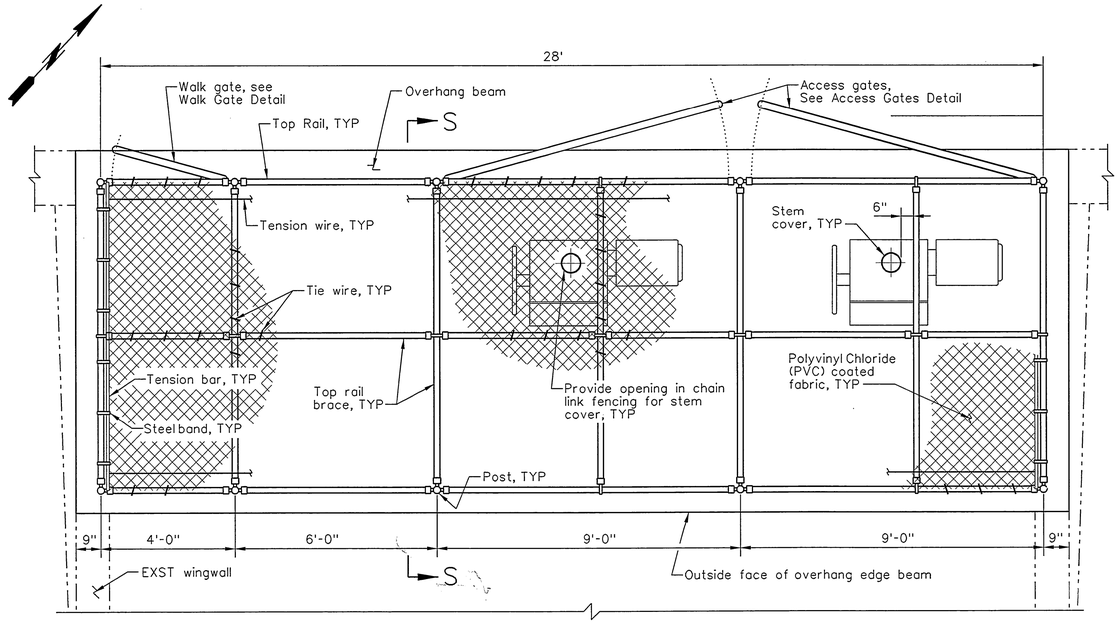
DRAFTER S. GREGOWSKE | DESIGNER S. GREGOWSKE | CHECKER KENNETH HO | CADD PROJECT FILE NAME D0000953-STRUCTURES.DGN | REVIEWED BY KENNETH HO DATE 03/29/07

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING — CITY OF LOS ANGELES — OFFICIAL RECORD

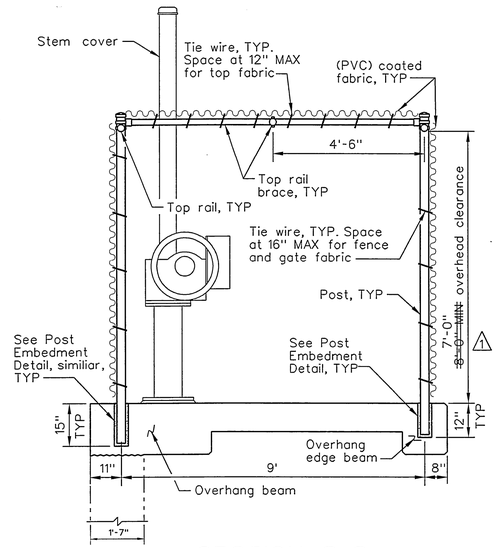
D-34542 S-04

DATE: $DATE$ TIME: $TIME$ FILE: $FILE$



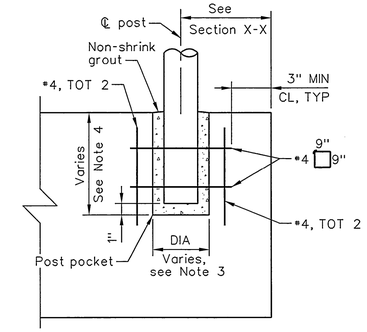
CHAIN LINK FENCE PLAN

Scale: 1/2" = 1'-0"



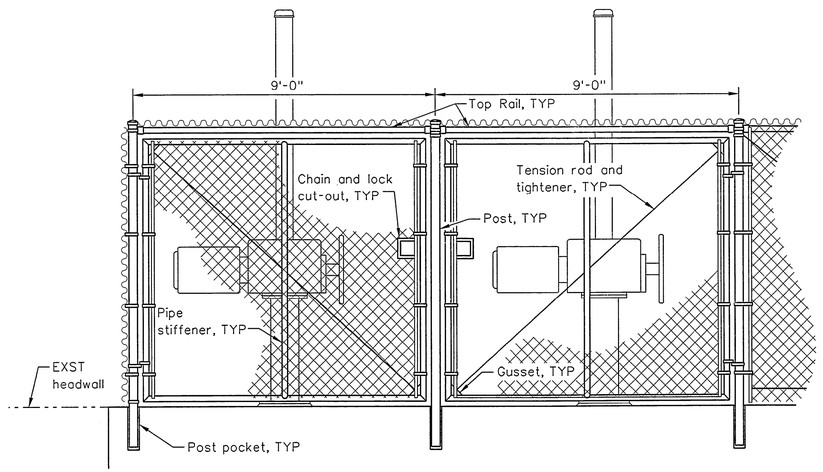
SECTION S-S

Scale: 1/2" = 1'-0"



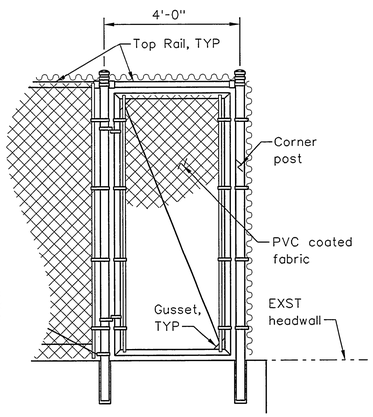
POST EMBEDMENT DETAIL

Scale: 2" = 1'-0"



ACCESS GATES DETAIL

Scale: 1/2" = 1'-0"



WALK GATE DETAIL

Scale: 1/2" = 1'-0"

NOTES:

1. All chain link fence shall conform to the details of Standard Plan 600, except as modifed by the Plans, and as directed by the Engineer.
2. All fence materials, including pipes, fabric, and fittings shall be polyvinyl chloride (PVC) coated.
3. The diameter of post embedment hole shall be 1" greater than the pipe outside diameter.
4. The depth of the post embedment hole shall be 15" for all post at the overhang beam, and 12" for all post at the overhang edge beam.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DATE	MK	DESCRIPTION
10/29/07	1	CHANGED FENCE HEIGHT

REVISIONS

REGISTERED PROFESSIONAL ENGINEER — SCOTT GREGOWSKE — NO. 68087 — EXP. 06/30/07 — CIVIL — STATE OF CALIFORNIA

PROJECT ENGINEER — DATE 11/2/07

BUREAU OF ENGINEERING — CITY OF LOS ANGELES — OFFICIAL RECORD

D-34542 S-05

COUNTY OF LOS ANGELES DEPARTMENT OF BEACHES AND HARBORS

CHAIN LINK FENCE DETAILS

MARINA DEL REY
TIDE GATES REHABILITATION

JOB D0000953 | DWG | SHEET 10 OF 15

PS-DF 5/99

DRAFTER: S. GREGOWSKE
DESIGNER: S. GREGOWSKE
CHECKER: KENNETH HO
CADD PROJECT FILE NAME: D0000953-STRUCTURES.DGN
REVIEWED BY: KENNETH HO DATE 03/29/07

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

DATE. $DATE$ TIME. $TIME$ FILE. $FILE$

...\D0000953 - STRUCTURES.dgn 10/29/2007 05:58:13 PM

TOW-AWAY
NO
PARKING
-NO PARKING-
4/10/21
4am to 8pm